

ii) culturing an organ induced from ectoderm region which has been cut off from the blastula to the same stage as that of the recipient vertebrate to obtain an *in vitro* induced organ.

19. The method according to claim 18 wherein *in vitro* induction takes place in the presence of a substance selected from the TGF (Transforming Growth Factor)- β family.

20. The method according to claim 19 wherein the substance is activin.

21. The method according to claim 18 wherein *in vitro* induction takes place in the presence of activin and retinoic acid.

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22. The method according to claim 18 wherein the organ is selected from the group consisting of kidney, heart, pancreas, liver, enteric canal, notochord, skeletal muscle, leukocyte, erythrocyte and lymphocyte.

23. The method according to claim 18 wherein the recipient is an embryo.

24. An *in vitro* induced organ for transplantation that functions *in vivo* when transplanted into a recipient vertebrate of the same species, said organ being obtained by culturing an organ induced from ectoderm region which has been cut off from the blastula to the same stage as that of the recipient vertebrate, wherein the stage of the recipient vertebrate is determined by an examination using genome DNA which expresses corresponding to the stage of organs as a molecular marker, and/or by observation of organ tissues.

25. A method of transplanting an *in vitro* induced organ into a recipient vertebrate of the same species to obtain an organ that functions *in vivo*, comprising the steps of

- i) determining the stage of a recipient vertebrate by an examination using genome DNA which expresses corresponding to the stage of organs as a molecular marker, and/or by observation of organ tissues;
- ii) culturing an organ induced from ectoderm region which has been cut off from the blastula to the same stage as that of the recipient vertebrate to obtain a cultured *in vitro* induced organ; and
- iii) transplanting the cultured *in vitro* induced organ into the recipient vertebrate of the same species,

to obtain an organ that functions *in vivo*.

26. The method according to claim 25, wherein the organ is cultured in the presence of a substance selected from the TGF (Transforming Growth Factor)- β family.

27. The method according to claim 25, wherein the organ is selected from the group consisting of kidney, heart, pancreas, liver, enteric canal, notochord, skeletal muscle, leukocyte, erythrocyte and lymphocyte.--

REMARKS

With entry of this amendment, claims 18-27 are pending. The claims have been rewritten in accordance with U.S. practice to overcome indefiniteness rejections. Support for new claims 18-27 can be found throughout the specification and in the originally filed claims. No new matter has been added. Reconsideration is requested.

In the Action, the Examiner has objected to claims 13-17 as being in improper dependent form. Claims 13-17 have been cancelled, thereby obviating this rejection.

Claims 1-10 (rewritten as new claims 18-23) were rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable a skilled artisan to make and use the invention. It is the Examiner's view that